LISTING OF THE CLAIMS

Claim 1. (Previously Presented) An oxygen barrier composition, comprising:
an oxygen barrier polymer, an oxygen scavenging polymer, a photoinitiator, and an oxidation catalyst, wherein the oxygen barrier polymer is selected from poly(ethylene/vinyl alcohol) (EVOH), polyacrylonitrile (PAN), copolymers comprising acrylonitrile, or poly(vinylidene dichloride) (PVDC); and the oxygen scavenging polymer is a polyamide oligomer or polymer derived at least in part from a xylylene diamine-based monomer.

Claim 2. (Previously Presented) The composition of claim 1, wherein the oxygen scavenging polymer comprises from about 10 mol% to about 50 mol% units derived from a xylylene diamine-based monomer.

Claim 3. (Previously Presented) The composition of claim 1, wherein the oxygen scavenging polymer comprises from about 1% to about 30% of the composition by weight.

Claim 4. (Original) The composition of claim 1, wherein the oxygen scavenging polymer is MXD6.

Claim 5. (Original) The composition of claim 1, wherein the composition has an oxygen transmission rate at least 2 times lower than that of the oxygen barrier polymer alone.

Claim 6. (Original) The composition of claim 1, wherein the oxidation catalyst comprises a transition metal selected from cobalt, copper, nickel, iron, manganese, rhodium, or ruthenium.

Claim 7. (Original) The composition of claim 6, wherein the oxidation catalyst is a salt comprising a counterion selected from $C_1$-$C_{20}$ alkanoates.

Claim 8. (Original) The composition of claim 7, wherein the transition metal salt is cobalt oleate, cobalt stearate, or cobalt neodecanoate.

Claim 9. (Canceled)

Claim 10. (Original) The composition of claim 1, wherein the photoinitiator is selected from benzophenone derivatives containing at least two benzophenone moieties and having the formula:

$A_a(B)_b$

wherein

A is a bridging group selected from sulfur; oxygen; carbonyl; -SiR"$_2$-, wherein each R" is individually selected from alkyl groups containing from 1 to 12 carbon atoms, aryl groups containing 6 to 12 carbon atoms, or alkoxy groups containing from 1 to 12 carbon atoms; -NR"'-, wherein R"' is an alkyl group containing 1 to 12 carbon atoms, an aryl group containing 6 to 12 carbon atoms, or hydrogen; or an organic group containing from 1 to 50 carbon atoms;

a is an integer from 0 to 11;

B is a substituted or unsubstituted benzophenone group; and

b is an integer from 2 to 12.

Claim 11. (Original) The composition of claim 10, wherein the photoinitiator is selected from dibenzoyl biphenyl, substituted dibenzoyl biphenyl, benzoylated terphenyl, substituted benzoylated terphenyl, tribenzoyl triphenylbenzene, substituted tribenzoyl triphenylbenzene, benzoylated styrene oligomer, or substituted benzoylated styrene oligomer.

Claim 12. (Original) The composition of claim 1, further comprising an antioxidant.

Claim 13. (Original) The composition of claim 12, wherein the antioxidant is selected from 2,6-di(t-butyl)-4-methylphenol(BHT), 2,2'-methylene-bis(6-t-butyl-p-cresol), triphenylphosphite, tris-(nonylphenyl)phosphite, vitamin E, tetra-bismethylene 3-(3,5-ditertbutyl-4-hydroxyphenyl)-propionate methane, or dilaurylthiodipropionate.

Claim 14. (Previously Presented) A packaging article, comprising:

(a) at least one oxygen barrier layer comprising an oxygen barrier polymer, a photoinitiator, and an oxygen scavenging polymer, wherein the oxygen barrier polymer is selected from poly(ethylene/vinyl alcohol) (EVOH), polyacrylonitrile (PAN), copolymers comprising acrylonitrile, or poly(vinylidene dichloride) (PVDC); and the oxygen scavenging polymer is a polyamide oligomer or polymer derived at least in part from a xylylene diamine-based monomer; and

(b) a transition metal salt in the oxygen barrier layer or a layer adjacent to the oxygen barrier layer.

Claim 15. (Previously Presented) The packaging article of claim 14, wherein the oxygen scavenging polymer comprises from about 10 mol% to about 50 mol% units derived from a xylylene diamine-based monomer.

Claim 16. (Previously Presented) The packaging article of claim 14, wherein the oxygen scavenging polymer comprises from about 1% to about 30% of the composition by weight.

Claim 17. (Original) The packaging article of claim 14, wherein the oxygen scavenging polymer is MXD6.

Claim 18. (Canceled)

Claim 19. (Previously Presented) The packaging article of claim 14, wherein the transition metal is selected from cobalt, copper, nickel, iron, manganese, rhodium, or ruthenium.

Claim 20. (Original) The packaging article of claim 19, wherein the transition metal salt comprises a counterion selected from $C_1$-$C_{20}$ alkanoates.

Claim 21. (Original) The packaging article of claim 20, wherein the transition metal salt is cobalt oleate, cobalt stearate, or cobalt neodecanoate.

Claim 22. (Canceled)

Claim 23. (Original) The packaging article of claim 14, wherein the photoinitiator is selected from benzophenone derivatives containing at least two benzophenone moieties and having the formula:

$A_a(B)_b$

wherein

A is a bridging group selected from sulfur; oxygen; carbonyl; -SiR"2-, wherein each R" is individually selected from alkyl groups containing from 1 to 12 carbon atoms, aryl groups containing 6 to 12 carbon atoms, or alkoxy groups containing from 1 to 12 carbon atoms; -NR"'-, wherein R"' is an alkyl group containing 1 to 12 carbon atoms, an aryl group containing 6 to 12 carbon atoms, or hydrogen; or an organic group containing from 1 to 50 carbon atoms;

a is an integer from 0 to 11;

B is a substituted or unsubstituted benzophenone group; and

b is an integer from 2 to 12

Claim 24. (Original) The packaging article of claim 23, wherein the photoinitiator is selected from dibenzoyl biphenyl, substituted dibenzoyl biphenyl, benzoylated terphenyl, substituted benzoylated terphenyl, tribenzoyl triphenylbenzene, substituted tribenzoyl triphenylbenzene, benzoylated styrene oligomer, or substituted benzoylated styrene oligomer.

Claim 25. (Original) The packaging article of claim 14, further comprising an antioxidant in the oxygen barrier layer.

Claim 26. (Original) The packaging article of claim 25, wherein the antioxidant is selected from 2,6-di(t-butyl)-4-methylphenol(BHT), 2,2'-methylene-bis(6-t-butyl-p-cresol), triphenylphosphite,

tris-(nonylphenyl)phosphite, vitamin E, tetra-bismethylene 3-(3,5-ditertbutyl-4-hydroxyphenyl)-propionate methane, or dilaurylthiodipropionate.

Claim 27. (Previously Presented) The packaging article of claim 14, further comprising an oxygen barrier layer, wherein the oxygen barrier layer does not comprise a polyamide derived at least in part from a xylylene diamine-based monomer.

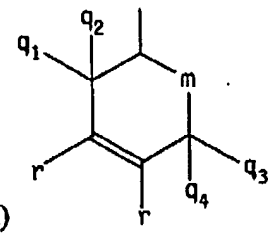
Claim 28. (Currently Amended) The packaging article of claim 27, wherein the oxygen barrier layer not comprising a polyamide derived at least in part from a xylylene diamine-based monomer comprises poly(ethylene vinyl alcohol) (EVOH), polyacrylonitrile (PAN), a copolymer comprising acrylonitrile, poly(vinylidene dichloride) (PVDC), polyethylene terephthalate (PET), or polyethylene naphthalate (PEN).

Claim 29. (Original) The packaging article of claim 14, further comprising a structural layer.

Claim 30. (Original) The packaging article of claim 29, wherein the structural layer comprises PET, polyamide, polypropylene, polyethylene, low density polyethylene, very low density polyethylene, ultra-low density polyethylene, high density polyethylene, polyvinyl chloride, ethylene-vinyl acetate, ethylene-alkyl (meth)acrylates, ethylene-(meth)acrylic acid, ethylene-(meth)acrylic acid ionomers, paperboard, or cardboard.

Claim 31. (Original) The packaging article of claim 14, further comprising an oxygen scavenging layer.

Claim 32. (Original) The packaging article of claim 31, wherein the oxygen scavenging layer comprises an oxygen scavenging polymer comprising an ethylenic backbone and a cycloalkenyl group with structure I:




(I)

wherein $q_1$, $q_2$, $q_3$, $q_4$, and r are independently selected from hydrogen, methyl, or ethyl; m is $-(CH_2)_n-$, wherein n is an integer from 0 to 4, inclusive; and, when r is hydrogen, at least one of $q_1$, $q_2$, $q_3$, and $q_4$ is also hydrogen.

Claim 33. (Original) The packaging article of claim 32, wherein the oxygen scavenging layer comprises an oxygen scavenging polymer selected from ethylene/methyl acrylate/cyclohexenylmethyl acrylate terpolymer (EMCM), ethylene/vinyl cyclohexene copolymer (EVCH), ethylene/cyclohexenylmethyl acrylate copolymer (ECHA), or cyclohexenylmethyl acrylate homopolymer (CHAA).

Claim 34. (Original) The packaging article of claim 31, wherein the oxygen scavenging layer is a liner, coating, sealant, gasket, adhesive, non-adhesive insert, or fibrous mat insert in the packaging article.

Claim 35. (Original) The packaging article of claim 14, wherein the packaging article is in the form of a single layer flexible article, a multilayer flexible article, a single layer rigid article, or a multilayer rigid article.

Claim 36. (Previously Presented) A method of making an oxygen barrier composition comprising an oxygen barrier polymer, an oxygen scavenging polymer, a photoinitiator, and an oxidation catalyst, wherein the oxygen barrier polymer is selected from poly(ethylene/vinyl alcohol) (EVOH), polyacrylonitrile (PAN), copolymers comprising acrylonitrile, or poly(vinylidene dichloride) (PVDC); and the oxygen scavenging polymer is a polyamide oligomer or polymer derived at least in part from a xylylene diamine-based monomer:

providing the oxygen barrier polymer, the polyamide derived at least in part from a xylylene diamine-based monomer, and the oxidation catalyst; and

blending the oxygen barrier polymer, the polyamide, and the oxidation catalyst, to form the oxygen barrier composition.

Claim 37. (Previously Presented) The method of claim 36, wherein the oxygen scavenging polymer comprises from about 1% to about 30% of the composition by weight.

Claim 38. (Original) The method of claim 36, wherein the oxygen scavenging polymer is MXD6.

Claim 39. (Original) The method of claim 36, wherein the blending occurs during a reactive extrusion.

Claim 40. (Previously Presented) A method of forming an oxygen barrier layer in a packaging article, comprising:

providing an oxygen barrier composition comprising an oxygen barrier polymer, a photoinitiator, and an oxygen scavenging polymer, wherein the oxygen barrier polymer is selected from poly(ethylene/vinyl alcohol) (EVOH), polyacrylonitrile (PAN), copolymers comprising acrylonitrile, or poly(vinylidene dichloride) (PVDC); and the oxygen scavenging polymer is a polyamide oligomer or polymer derived at least in part from a xylylene diamine-based monomer;

forming the composition into the packaging article or an oxygen barrier layer thereof; and

forming a transition metal salt into the oxygen barrier layer or a layer adjacent to the oxygen barrier layer of the packaging article.

Claim 41. (Original) The method of claim 40, wherein the oxygen scavenging polymer comprises from about 1% to about 30% of the composition by weight.

Claim 42. (Original) The method of claim 40, wherein the oxygen scavenging polymer is MXD6.

Claims 43-44. (Canceled)

Claim 45. (Original) The method of claim 40, wherein the oxygen barrier layer further comprises an antioxidant.

Claim 46. (Previously Presented) The method of claim 40, wherein the forming step further comprises forming an oxygen barrier layer in the packaging article, wherein the oxygen barrier layer does not comprise a polyamide derived at least in part from a xylylene diamine-based monomer.

Claim 47. (Previously Presented) The method of claim 40, further comprising forming a structural layer in the packaging article.

Claim 48. (Previously Presented) The method of claim 40, further comprising forming an oxygen scavenging layer in the packaging article.

Claim 49. (Previously Presented) The method of claim 40, further comprising forming the packaging article as a single layer flexible article, a multilayer flexible article, a single layer rigid article, or a multilayer rigid article.